

Dual-Loop Bus-Based Network Switch Using Distance-Value or Bit-Mask

Abstract of Disclosure

A network switch routes switch packets among nodes with input and output ports. The nodes are connected together in a loop by two buses. One bus sends packets in a clockwise direction around the loop of nodes, while the other bus sends packets in a counter-clockwise direction around the loop. Each bus is divided into links between adjacent nodes, which examine and forward the packets to the next node in the loop. A packet is duplicated and injected onto both buses from a source node, reaching half of the nodes in one direction, and the other nodes in the opposite direction. A distance value in the packet header is set to half of the number of nodes so that the packet is removed after traveling half-way around the loop. A bit-mask in the header indicates nodes to receive the packet, or source-monitoring can remove packets half-way around the loop.

Figures